Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 90 of the	)	
Commission's Rules to Adopt	)	PR Docket No. 93-61
Regulations for Automatic	)	
Vehicle Monitoring Systems	)	

To: The Commission

PETITION FOR RECONSIDERATION

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SUMMARY

UTC understands and appreciates the Commission's efforts in attempting to balance the interference concerns of the users of Part 15 devices with the desires of commercial entrepreneurs to establish new Location Monitoring Services (LMS) in the 902-928 MHz band. However, there are certain aspects of the Report and Order which should be modified or clarified.

First, the current rules would not be effective in restricting LMS from becoming just another messaging service. To the extent an LMS operator is allowed to use store and forward interconnection with the Public Switched Network, its system would be classified as a Commercial Mobile Radio Service (CMRS); a common carrier service offering. Under well-established principles, the content of communications transmitted on common carrier communications is the sole responsibility of the customer. Thus, the LMS licensee might be precluded both legally and practically from ensuring that the LMS system is not used for general messaging purposes. UTC recommends instead that technical restrictions be adopted that will tend to deter use of LMS for general messaging in order to alleviate the additional congestion that would occur in this band if voice and data communications were liberally permitted on LMS systems.

Second, although the Commission placed great reliance on post-rulemaking testing to verify the compatibility of LMS systems with Part 15 devices, no guidelines were adopted in the R&O for this testing. UTC requests clarification of the testing procedures to ensure that the evidence-gathering process is rigorous and that the license conditions will effectively mitigate the potential for interference to the millions of Part 15 devices in this band.

Third, the de facto height restrictions imposed on Part 15 devices are inconsistent with the sophisticated wide area communications networks now being deployed by utilities in this band. Because utility-operated devices are ideally mounted on utility poles or street lights, they would not receive the protections afforded by the rules to devices that are only 5 meters above ground. UTC urges elimination of these height restrictions, or at least an increase of this general height limit to 15 meters above ground in order to protect the significant investment being made by utilities in these important communications systems.

Finally, UTC urges adoption of reasonable height/power limits on narrowband forward links operating in the 927.250-928.000 MHz band in order to offer some protection to multiple address systems (MAS) operating in the adjacent 928-929 MHz band. Many utilities and pipelines operate MAS systems for SCADA and telemetry and have experienced interference from higher power paging operations in the 929-930 MHz band.

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Pursuant to Section 1.429 of the Commission's Rules, UTC[1/] respectfully requests reconsideration of certain aspects of the Commission's Report and Order, FCC 95-41, released February 6, 1995 (R&O) in the above-captioned matter.[2/]

UTC is the national representative on communications matters for nearly 2,000 of the nation's electric, gas and water utilities and natural gas pipelines. UTC was an

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[1/] UTC, The Telecommunications Association, was formerly known as the Utilities Telecommunications Council.

[2/] A summary of the Report and Order was published at 60 Fed. Reg. 15248 (March 23, 1995). This petition for reconsideration is timely in that it is being filed within 30 days of publication in the Federal Register. Errata to the Report and Order were released on February 17, 1995, DA 95-265, and March 1, 1995, mimeo no. 52499. Unless otherwise noted, citations to rule provisions adopted in this docket will refer to the rules as revised by the Second Erratum of March 1, 1995.

active participant in this docket, urging protection for the millions of unlicensed devices used by utilities and pipelines for meter reading and distribution automation. UTC understands the difficult choices that faced the Commission in this proceeding, and appreciates the Commission's efforts at balancing the interference concerns of Part 15 users with the desires of the commercial entrepreneurs to establish a new Location Monitoring Service (LMS) in this heavily congested spectrum. Nevertheless, there are certain aspects of the R&O that should be modified or clarified if there is to be any prospect for successful sharing of this band with as little Commission intervention as possible.

I. The Restrictions on Ancillary LMS Communications Should Be Strengthened to Retain the Primary Purpose of LMS as Location Monitoring, Not Voice or Data Communications

Section 90.353(b) and (c) would permit LMS systems to transmit ancillary signals not strictly related to location monitoring under the following conditions:

> (b) LMS systems are authorized to transmit status and instructional messages, either voice or non-voice, so long as they are related to the location or monitoring functions of the system.
>
> (c) LMS systems may utilize store and forward interconnection, where either (1) transmissions from a vehicle or object being monitored are stored by the LMS provider for later transmission over the public switched network (PSN), or (2) transmissions received by the LMS provider from the PSN are stored for later transmission to the vehicle or object being monitored. Real-time interconnection between vehicles or objects being

> monitored and the PSN will only be permitted to enable emergency communications related to a vehicle or a passenger in a vehicle. Such real-time, interconnected communications may only be sent to or received from a system dispatch point or entities eligible in the Public Safety or Special Emergency Radio Services. See Subparts B and C of this Part.

UTC agrees with the Commission's concern, as expressed in the R&O, that "[u]nfettered interconnection and messaging in the LMS could not only increase the potential for harmful interference to other users of the band, but detract from the intended purpose of the LMS allocation."[3/] The above-quoted rule provisions were adopted by the Commission to "ensure that LMS systems are utilized primarily for location services and not as a general messaging or interconnected voice or data service."[4/]

However, despite the Commission's good intentions, these rule provisions will not effectively deter the conversion of LMS systems into more traditional mobile communications systems. In fact, there would be no effective means for either the Commission or LMS licensees to enforce these restrictions.

[3/] R&O, para. 23.

[4/] Id.

A. Because LMS Systems Offering Interconnected Service Will Be Classified As CMRS, the FCC's Restrictions on Message Content May Be Unenforceable

1. Commercial LMS Systems Using Store and Forward Interconnection Will Be Classified as Commercial Mobile Radio Service Providers

Section 332 of the Communications Act of 1934, as amended, provides that a service would be classified as a commercial mobile radio service (CMRS) if it is a mobile service provided to the public for-profit and interconnected with the PSN. In the Second Report and Order in GN Docket No. 93-252, FCC 94-31 (released March 7, 1994), the Commission determined that "interconnected" service includes use of store and forward technology.[5/] In addition to dispatch-type communications "related to the location or monitoring functions of the system," LMS systems would be authorized by Section 90.353(c) to use "store and forward" interconnection with the PSN. As such, an LMS system which is operated for-profit and which allows store and forward interconnection with the PSN would be classified as CMRS under the Commission's Rules and policies.

When it adopted the Second Report and Order in GN Docket No. 93-252, the issues in the present docket had not been resolved, and it was unclear whether LMS (or "AVM," as

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[5/] Id., para. 57.

it was known at that time) would meet the criteria to be classified as a CMRS. At that time, the Commission noted that AVM was licensed under the interim rules as a not-for-profit service. Further, it also did not appear likely to the Commission that AVM systems would offer interconnected service, despite predictions to the contrary by Southwestern Bell, an active AVM proponent. Therefore, the Commission presumptively classified AVM as a Private Mobile Radio Service (PMRS), but indicated it would reclassify AVM as CMRS "should AVM systems develop interconnected capability in the future."[6/]

2. CMRS Providers and Other Common Carriers May Not Interfere With or Censor Customers' Communications

Now that the AVM proponents have made clear that they desire to provide interconnected service[7/] and the Commission has in fact authorized use of store and forward interconnection, the Commission must also consider the consequences of reclassifying LMS as a CMRS. Section 332(c) of the Communications Act provides that a person providing CMRS will be treated as a common carrier, but that the Commission may forbear from applying the

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[6/] Second Report and Order in GN Docket No. 93-252, at para. 99.

[7/] MobileVision, Teletrac and Uniplex. See R&O, para. 21 and n.50.

provisions of Title II except for Sections 201, 202 and 208.

It is well-settled that the choice of intelligence to be transmitted over a common carrier communications system is the sole responsibility or prerogative of the customer and not the carrier. Computer and Communications Industry Assn. v. FCC, 693 F.2d 198, 210 (D.C. Cir. 1982), cert. denied 103 S.Ct. 2109 (1983); National Association of Regulatory Utility Commissioners v. FCC, 533 F.2d 601, 609 (D.C. Cir. 1976); (NARUC II); National Association of Regulatory Utility Commissioners v. FCC, 525 F.2d 630, 641, cert. denied 425 U.S. 992 (1976); Industrial Radiolocation Service, 5 FCC 2d 197, 202 (1966); Citicorp Digital Exchange, 1984 FCC LEXIS 1750 (CC Bur. 1984). See also FCC v. Midwest Video, 440 U.S. 689, 701 (1979) ("A common-carrier service in the communications context is one that 'makes a public offering to provide [communications facilities] whereby all members of the public who choose to employ such facilities may communicate or transmit intelligence of their own design and choosing.'")

By allowing transmission of customer messages that are "related to the location or monitoring functions of the system" or to "emergency communications," the Commission will place LMS carriers in the dilemma of having to become

substantially involved with their customers' communications -- a practice that is contrary to one of the principal tenets of common carriage.

Moreover, carrier enforcement of this restriction could be construed as a violation of Section 705 of the Communications Act, as amended, which provides in pertinent part as follows:

> Sec. 705. Unauthorized publication or use of communications
>
> (a) Practices prohibited. Except as authorized by chapter 119, title 18, no person receiving, assisting in receiving, transmitting, or assisting in transmitting, any interstate or foreign communication by wire or radio shall divulge or publish the existence, contents, substance, purport, effect, or meaning thereof, except through authorized channels of transmission or reception, (1) to any person other than the addressee, his agent, or attorney, (2) to a person employed or authorized to forward such communication to its destination, (3) to proper accounting or distributing officers of the various communicating centers over which the communication may be passed, (4) to the master of a ship under whom he is serving, (5) in response to a subpena issued by a court of competent jurisdiction, or (6) on demand of other lawful authority. ...[8/]

Even if a LMS carrier were to discover that a customer is using the system to transmit messages unrelated to "location or monitoring" or "emergency communications," Section 705 could be construed as preventing the carrier

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[8/] 47 U.S.C. §605.

from divulging this fact to the Commission except upon "demand" by the Commission.[9/] To the extent the Commission, by rule, "demands" that LMS carriers monitor for, disclose and/or prevent customers from transmitting certain types of communications, it could also be construed as a form of censorship in violation of Section 326 of the Communications Act, which provides as follows:

> Section 326. Censorship
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> Nothing in this chapter shall be understood or construed to give the Commission the power of censorship over the radio communications or signals transmitted by any radio station, and no regulation or condition shall be promulgated or fixed by the Commission which shall interfere with the right of free speech by means of radio communications.

3. In Any Event, Content-Based Restrictions Are Illusory and Will Be Ineffective

Putting aside the lawfulness of content-based restrictions on "ancillary" use of LMS systems, such restrictions will be illusory and ineffective in preventing conversion of LMS systems into de facto "personal communications systems." LMS licensees will have every incentive to provide services demanded by their customers and to refrain from taking any actions that would limit customer choice. It is simply implausible to expect that

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[9/] Section 605 would also prevent interested third-parties from disclosing to the Commission or the LMS provider evidence of impermissible communications transmitted by an LMS customer.

LMS licensees will monitor customer communications and take action to prevent customers from transmitting messages other than those related to "location or monitoring" or "emergency communications." First, it would be virtually impossible for a carrier to be able to monitor communications for message content, and second, it would be economically and politically disastrous for a carrier to be engaged in conduct that would be perceived as Orwellian by the average customer.

B. The Rules Should Prohibit LMS Interconnection and Should Impose Technological Restrictions on the Permissible Types of Customer Communications

If LMS systems are precluded from offering interconnected service, they will not be classified as CMRS, nor, by definition, as common carriers. This will also serve as a major deterrent to the use of LMS systems for general voice and data communications and will help to ensure that LMS channels are used principally for location and monitoring functions.

To the extent it is deemed advisable to allow LMS systems to be used to transmit ancillary or "emergency" communications, the Commission could prescribe by rule certain technical restrictions designed to ensure that such use is limited without requiring reference to the content of the transmissions themselves. UTC recommends, for

example, that Section 90.353(b) and (c) be revised as follows:

> (b) LMS systems are authorized to transmit non-voice status and instructional messages so long as they are related to the location or monitoring functions of the system. Each message to or from a vehicle or object being monitored may not exceed two seconds in duration, and each vehicle or object being monitored may not send or receive more than one message in any 30-minute period.
>
> (c) Real-time interconnection between vehicles or objects being monitored and the public switched network (PSN) will only be permitted to enable transmission of pre-programmed emergency messages related to a vehicle or a passenger in a vehicle. Such real-time, interconnected communications may only be sent to or received from a system dispatch point or entities eligible in the Public Safety or Special Emergency Radio Services. See Subparts B and C of this Part.

Absent reasonable restrictions such as these, channel occupancy in the 902-928 MHz band could become congested with traditional voice and data traffic, making them unusable for Part 15 devices.[10/] Significant capacity exists in other mobile radio services for more extensive messaging functions, and there is no need to impose an additional burden on this already congested 902-928 MHz band. UTC therefore urges reconsideration of the liberal

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[10/] A two-second limit on message duration is also imposed on ancillary fixed data communications in private land mobile radio systems operating in a shared frequency environment. 47 C.F.R. §90.235. This should be more than adequate for the transmission of non-voice messages relating to location or monitoring functions. A limit of one message per 30 minute interval will allow for sufficient opportunities to update location or monitoring status, yet discourage LMS from being used primarily for routine messaging.

and largely unenforceable provisions on interconnection and transmission of ancillary communications.

II. Testing Procedures Must Be Clarified

The R&O places great reliance on further testing to resolve the fundamental issue of the extent to which multilateration LMS systems can be configured to minimize interference to Part 15 devices.[11/] Section 90.353(d) provides, in pertinent part, that "MTA multilateration licenses will be conditioned upon the licensee's ability to demonstrate through actual field tests that their systems do not cause unacceptable levels of interference to Part 15 devices."

The issue of field testing has been a source of contention throughout this proceeding. Given the myriad of Part 15 devices, the uncertain nature of the LMS systems that might be deployed in these bands, and the LMS proponents' alleged concerns over disclosing proprietary information, there is little in the record by which the Commission could make a fair assessment of the potential for LMS systems to interfere with Part 15 devices. Indeed, Commissioner Barrett dissented from the R&O "because of the lack of controlled testing prior to adopting the new band plan." Similarly, Commissioner Quello noted the lack of

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[11/] R&O, paras. 81-82.

testing, but expressed his opinion that he was not certain that "a more rigorous system of testing would tell us more than we already know: that interference to and from Part 15 devices and AVM systems is likely to be sporadic, unpredictable and, beyond a certain point, intractable."

UTC requests the Commission to clarify and strengthen the procedures under which LMS licensees will be required to demonstrate compatibility with Part 15 devices. The Commission should clarify that: (1) manufacturers and users of Part 15 devices must have an opportunity to participate in the design and implementation of the tests; (2) no revenue service may be initiated before successful completion of testing; (3) LMS licensees may operate their systems only in conformance with the systems as tested and approved; and (4) no changes may be made in the operating parameters as approved during the initial testing process without re-testing.

If the Commission is going to rely on post-rulemaking evidence to validate its tentative conclusions in a highly contested proceeding such as this, it must ensure that the evidence-gathering process is rigorous and that the license conditions will be effective in mitigating the potential for interference to the millions of Part 15 devices operating in this band.

III. The Rules Should Not Impose De Facto Height Limits on Part 15 Devices Used In Utility Communications Systems

Section 90.361(c)(2) provides that a Part 15 device with an outdoor antenna will not be considered to be causing harmful interference to a multilateration LMS system if, among other things, the antenna is less than 5 meters above ground or is less than 15 meters above ground but operating at reduced power. However, if the Part 15 device "[i]s providing the final link for communications of entities eligible under Subparts B or C of Part 90" (i.e., public safety agencies), the antenna may be as high as 15 meters above ground with no corresponding reduction in power.

Although the Commission describes this provision as imposing no restriction on the height of Part 15 devices,[12/] it will in fact impose a de facto limit on the height of many Part 15 devices. As was well-documented by UTC and others in this proceeding, some utilities are installing wide area communications networks in the 902-928 MHz band to provide sophisticated control of their public service utility systems. These systems were developed in response to the Commission's explicit invitation for the development of innovative products in the 902-928 MHz band, and are expected to play an important role in managing

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[12/] R&O, para. 36.

power consumption, operating the utility system more efficiently, and maintaining power system reliability.

The communications systems being deployed by some electric utilities, for example, rely on radio transceivers mounted on top of utility poles or street lights. These installations are ideal in the utility context because they provide adequate height for cost-effective deployment of a sufficient number of devices to cover the utility's service area, and power to operate the transceivers can be readily obtained at the utility pole or street light. However, most of the devices in such networks exceed 5 meters above ground due to the standard height of utility poles and street lights.

Even though the rules as adopted would not prohibit use of these Part 15 devices more than 5 meters above ground, the rules would subject these devices to claims of harmful interference from LMS operations, thereby jeopardizing the millions of dollars in investment made by the utility in establishing its seamless communications web. This level of risk is unacceptable.

In the R&O, the Commission attempted to justify the power-height reduction formula for antennas mounted more

than 5 meters above ground on the basis of limiting the interference range of Part 15 devices:

> ...An antenna less than 5 meters in height driven by a transmitter with 1 watt or less of output power will only affect LMS operations that are relatively close. A higher antenna, however, has the capability to affect a larger number of LMS operations. This is why, between 5 and 15 meters, we adopt the stated formula to adjust the Part 15 transmitter output power....[13/]

The sliding scale was not, however, applied to devices that "directly serve public safety and special emergency eligibles so as to minimize the effect on communications involving the safety of life or property."[14/]

The stated rationale is not relevant to the pole-mounted communications systems operated by electric utilities. While it is undisputed that, all things being equal, a system with a higher antenna will affect a greater area than one with a lower antenna, the record does not demonstrate that LMS systems could not function if outdoor Part 15 devices were permitted to operate at 1 watt with heights greater than 5 meters. The selection of 5 meters seems to be wholly arbitrary and inconsistent with the significant evidence in the record describing the pole-mounted systems being deployed by utilities and the fact that these antennas are typically greater than 5 meters

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[13/] R&O, para. 37.

[14/] Id.

above ground. While the Commission acknowledged the contribution to the public and the economy from automated meter reading systems and local area networks operating under Part 15, the selection of 5 meters as the maximum height for full power operation appears intended to make it impractical, if not impossible, for utilities to successfully operate pole-mounted systems.

The arbitrary nature of the 5 meter limit can also be seen when one considers the nature of a utility communications network. Unlike commercial carriers, whose service territories are defined by radio coverage, utilities must design radio coverage to meet their governmentally-defined public utility service areas. If coverage cannot be achieved due to arbitrary limits on antenna height, additional transmitters will have to be installed to provide fill-in coverage. Therefore, a 5-meter height limit will not necessarily limit the impact on LMS, but will definitely cause a significant financial and operational burden on the utility and its ratepayers.

UTC therefore respectfully requests that the 5-meter height limit specified in Section 90.361(c)(2) be removed, or that the limit be raised to at least 15 meters above ground. Alternatively, and in recognition of the unique communications networks being developed by utilities to

promote the safe and efficient delivery of public utility services, Section 90.361(c)(2)(ii)(B) could be revised as follows:

> (B) Is operated by an entity eligible under Subparts B or C of Part 90 or under Section 90.63.

IV. Height/Power Limits Should Be Imposed On Narrowband Forward Links Operating in the 927.250-928.000 MHz Band.

Narrowband forward links operating in the 927.250-928.00 MHz band will be limited to a maximum effective radiated power (ERP) of 300 watts. In its August 12, 1994, ex parte letter in this docket, UTC recommended against authorization of high-powered forward links in the 927-928 MHz band. UTC pointed out that the adjacent 928-929 MHz band is allocated for use in remote transmit stations of Multiple Address Systems (MAS) licensed under Part 94, and that there have been many instances of interference from high power paging operations at 929-930 MHz into adjacent band MAS operations.

The R&O made no reference to UTC's comments on this point. Further, the rules authorizing 300 watts ERP for the narrowband forward links established no limits on antenna height. To minimize the potential for interference by these forward links into co-channel and adjacent channel operations, UTC recommends that reasonable height/power

limits be adopted. Such power/height limits are used in other contexts to control the potential for interference.[15/]

V. Conclusion

This docket has illustrated the difficulties of trying to require unlicensed devices in a heavily congested band to share spectrum with an essentially new licensed radio service. The Commission itself recognized during the course of this proceeding that it would not represent good spectrum management to allocate a licensed service in a band such as the 902-928 MHz band which is already occupied by millions of unlicensed devices.[16/] UTC commends the Commission for attempting to balance the interests of all parties, but urges the Commission to adopt appropriate safeguards to ensure that the deployment of licensed LMS systems will not jeopardize the continued utility of the millions of consumer, business, and industrial devices operating in this band.

[15/] See, e.g., 47 C.F.R. §§22.505(b) and 22.905(b) (1993).

[16/] Report to Ronald H. Brown, Secretary, U.S. Department of Commerce, Regarding the Preliminary Spectrum Reallocation Report, FCC 94-213, released August 9, 1994, at para. 39.

WHEREFORE, THE PREMISES CONSIDERED, UTC respectfully requests the Commission to reconsider its decision in this matter in accordance with the views expressed herein.

Respectfully submitted,

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